

Listing of the Claims:

Claim 1 (currently amended): An electrical connector comprising:
a first connector body having interior walls defining an interior volume and first and second axially opposite open ends;
means defining a plurality of wire channels in said first end extending into the interior volume;
conductive terminals disposed in at least some of said channels;
printed circuit board guide structures on the interior walls to receive and hold a printed circuit board within said volume;
a printed circuit board disposed within and held by said guide structures and having a lead edge with edge contacts in electrical contacting relationship with the conductive terminals disposed in said channels, the printed circuit board having laterally opposite edges adjacent the lead edge and a detent notch formed in at least one of said laterally opposite edges;
at least one bar in the guide structures on the interior walls of the first connector, the at least one bar interacting with the detent notch to hold the printed circuit board in position;
a second connector body having interior walls defining an interior volume and first and second axially opposite ends, said second connector body being of such size and shape as to fit telescopically into the second end of said first connector body;
means defining a plurality of parallel wire guide channels in the second end of said second connector body and conductive terminal means for connection to external wires in at least some of said channels, said conductive terminal means electrically contacting said circuit board; and
latch means having first and second complementally interengaging portions on said first and second connector bodies to releasably latch said bodies together when telescopically engaged.

Claim 2 (previously amended): The apparatus as defined in claim 1 wherein said detent notch and bar provide a position assurance feature associated with said first connector body for accepting the printed circuit board into said guide structures in only one predetermined orientation.

Claim 3 (previously amended): The apparatus as defined in claim 1 further including a position assurance means insertable into said first connector body at right angles to an axis extending between said first and second axially opposite open ends of said first connector body to block movement of said printed circuit board from the inserted position.

Claim 4 (canceled)

Claim 5 (previously amended): The apparatus as defined in claim 1 further including a latching mechanism insertable into the first end of said first connector body, the latching mechanism having at least one arm for projecting behind the at least one bar to keep the bar from releasing from the detent notch.

Claim 6 (original): The apparatus as defined in claim 1 wherein the first and second connector bodies are made of molded plastic.

Claim 7 (currently amended): A smart connector for intermediate location in an electrical circuit comprising:

first and second complementary connector bodies which can be latchingly joined together and latched to define an interior volume; the first connector body receiving ~~input~~output conductors and the second connector body receiving ~~output~~input conductors;

a printed circuit board disposed within said volume;

a rib formed in said first connector body and an off center slot defined in the circuit board whereby said rib is received in said slot only when said circuit board is inserted into said first connector body in a predetermined orientation and location;

said printed circuit board carrying at least one intelligent circuit component thereon and having conductive contacts formed at opposite ends thereof for electrical connection to said at least one intelligent circuit component; and

first and second terminals mounted in said first and second bodies respectively with spring portions thereof in electrically conductive engagement with said contacts for connecting the input conductors and output conductors to the circuit board and said at least one intelligent circuit component mounted thereon when said connector bodies are latchingly joined together.

Claim 8 (currently amended): A connector as defined in claim 7 wherein guideways are provided in at least said ~~first~~second body to slidably receive said circuit board.

Claim 9 (canceled).

Claim 10 (canceled).

Claim 11 (previously added): The connector defined in Claim 1 wherein the circuit board includes an intelligent circuit component which is connected with at least one of said conductive terminals when the board is inserted into said guide structures as the bodies are telescopically engaged.